Corrigé

Exercice 1

Questions	1	2	3	4
Réponses	a	a	c	c

Exercice 2

$f(x) = (ax^2 + bx + c)\, e^{-x}$

1°/ $f'(x) = (2ax+b)\, e^{-x} - (ax^2 + bx + c)\, e^{-x}$

$f'(x) = \left[-ax^2 + (-b + 2a)x + b - c\right] e^{-x}$

$f'(-1) = 0 \Rightarrow -3a + 2b - c = 0$

$f'(-2) = 0 \Rightarrow -8a + 3b - c = 0$

$f'(0) = 2 \Rightarrow b - c = 2$

$$\Rightarrow \begin{cases} -3a + 2b - c = 0 \\ -8a + 3b - c = 0 \\ b - c = 2 \end{cases}$$

$$\Rightarrow \begin{cases} -3a + 2b - c = 0 \\ 5a - b = 0 \\ -3a + b = -2 \end{cases} \Rightarrow \begin{cases} -3a + 2b - c = 0 \\ b = 5a \\ 2a = -2 \end{cases} \quad \text{d'ou} \quad \begin{cases} a = -1 \\ b = -5 \\ c = -7 \end{cases}$$

Conclusion:

$f(x) = (-x^2 - 5x - 7)\, e^{-x}$

2°/ $f'(x) = (x^2 + 3x + 2)\, e^{-x}$

x	$-\infty$		-2		-1		$+\infty$
f'(x)		+	0	-	0	+	
f(x)	$-\infty$	↗	$-e^2$	↘	$-3e$	↗	0

Qarray.tn -Aqra Blech- Qarray.tn